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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,252	10/27/2003	Norman C. Fawley	59910P003	4350

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EXAMINER	
BUTLER, PATRICK	
ART UNIT	PAPER NUMBER
1732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/695,252

Applicant(s)

FAWLEY, NORMAN C.

Examiner

Patrick Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20050315, 20040116</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Clavin (US Patent No. 4,132,104).

With respect to Claim 1, Clavin teaches applying a material to a pipe (see col. 4, lines 43-59), therefore forming a composite reinforced pipe. The pipe is heated prior bending and the pipe is bent (see col. 1, line 57 through col. 2, line 5; fig. 1).

With respect to Claim 2, Clavin teaches heating to a temperature that the coating is not destroyed and is softened and deformed (below a heat distortion temperature) (see col. 4, line 43 through col. 5, line 2; particularly col. 4, line 65 through col. 5, line 2).

With respect to Claim 3, Clavin teaches bending at a location then continuing bending at another location (bent incrementally at a plurality of longitudinally displaced locations) (see col. 4, lines 20-42).

With respect to Claim 4, Clavin teaches twelve-inch diameter pipes (see col. 2, lines 50-55) and bending 1° per arc foot (see col. 5, lines 3-5). Thus, a total bend of 1° in an arc foot with a twelve-inch diameter pipe (1° of longitudinal length equal to a diameter of the CRP).

With respect to Claim 7, the pipe is preheated to apply the coating (preheating the pipe) before heating to bend (preheating before heating) (see col. 4, lines 43-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clavin (US Patent No. 4,132,104) as applied to Claims 3 and 4 above, and further in view of Lewis (European Patent Application 1 086 760 A2).

With respect to Claim 5, Clavin teaches making a CRP as previously described with 1° bends achieved in the arc distance equal to the pipe's diameter.

Clavin does not explicitly teach bending with individual bends having $\frac{1}{4}$ the length of the pipe's diameter.

Lewis teaches achieving cumulative bends with spaced $\frac{1}{4}^\circ$ bends (see col. 9, paragraph [0029]).

In view of Clavin, the spaced $\frac{1}{4}^\circ$ bends would be $\frac{1}{4}$ of the 1° arc length (longitudinally displaced locations are separated by a distance equal to approximately $\frac{1}{4}$ of a diameter of the pipe).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lewis's bend increments with Clavin's pipe bending

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because Lewis teaches that $\frac{1}{4}^\circ$ bends can incrementally achieve the larger overall° desired to be obtained (see Lewis, col. 9, paragraph [0029]).

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clavin (US Patent No. 4,132,104) as applied to Claim 1 above, and further in view of Miller et al. (US Patent No. 4,255,378).

With respect to Claim 8, Clavin teaches making a CRP as previously described.

Clavin does not explicitly teach capping the ends of the pipe.

Miller et al. teach capping the ends of a pipe to be bent (see col. 5, lines 22-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Miller's caps with Clavin's bending in order to prevent the wall from buckling up upon formation of the curve (see col. 5, lines 22-29).

With respect to Claim 10, Miller's heating of the tube creates hot air in the tube (introducing hot air into the CRP) (see col. 5, lines 22-29).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clavin (US Patent No. 4,132,104) as applied to Claim 1 above, and further in view of Rossheim et al. (US Patent No. 2,480,774).

With respect to Claim 9, Clavin teaches making a CRP as previously described and bending with resistance heaters.

Clavin does not explicitly teach using induction heaters.

Rossheim teaches induction heaters and resistance heaters are used to bend pipe.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rossheim's induction heaters with Clavin's process of heating pipes being bent because both resistance and induction heaters are capable of satisfactorily functioning in the service of heating a pipe to be bent (see Rossheim, col. 7, lines 41-48).

Response to Arguments

Applicant's arguments filed 11 September 2006 and 22 December 2006 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC §102(b) rejections. Applicant's arguments appear to be on the grounds that:

1) Clavin teaches a pipe with a coating layer of plastic, which is not a composite reinforced pipe as taught by Applicant's provided reference and Applicant's specification.

2) Clavin teaches that heating the coating prevents tearing but does not teach heating the pipe.

3) Clavin's teaching of temperatures for heating SCOTCH COAT 202 pertains to the coating and not the pipe. The discussion of heating the pipe pertains to forming the coating rather than bending.

Applicant argues with respect to the 35 USC §103(a) rejections. Applicant's arguments appear to be on the grounds that:

4) Miller does not teach that the trapped air, caused by the plugs, facilitates heating of a coating or prevents tearing of an outer coating during bending of the pipe.

The Applicant's arguments are addressed as follows:

1) Clavin's coated pipe is a composite reinforced pipe because the resultant pipe is:

- both an original pipe and a coating (composite), since composite is something that is made up of distinct parts or compound as defined by Mish (*Webster's Ninth New Collegiate Dictionary*, page 270, ¹**composite** adj **1** : made up of distinct parts; ²**composite** n **1**: something composite : COMPOUND),
- the coating reinforces the structure to the extent that it would tear before allowing the pipe to bend absent specialized processing as taught by Clavin (reinforced) (see col. 1, line 57 through col. 2, line 5; fig. 1), and
- results in a finished product that is a pipe (pipe) (see fig. 1).

2) Applicant's claimed "pipe" is a composite pipe, which, by definition, would include portions, which would also be individual pipes, such as the inner pipe of Clavin and the coating of Clavin. Thus, the examiner interprets the claimed "pipe" to be the composite reinforced pipe, which would include the coating.

2) Moreover, the heating of the coating in Clavin would necessarily heat the pipe at least by conduction through their interface.

3) The bending temperature is taught to be in a range that does not cause the coating to be destroyed by heating, which would include slightly below the heat distortion temperature of the composite (see col. 4, line 65 through col. 5, line 2).

4) Clavin is relied upon for teaching avoiding tearing and heating the pipe instead of Miller. Moreover, Miller is relied upon because it teaches the benefit of plugging to

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prevent the wall from buckling up upon formation of the curve (see col. 5, lines 22-29), which is being done in Clavin.

4) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mo.-Th. 7:30 a.m. - 5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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SUPERVISORY PATENT EXAMINER
3/9/07